

Road Watch Computer Program
September 1968

No Date Automated Road Watch Data Operations Plan: 30-Day Trial,
to begin on 1 Nov 68

No Date ANNEX L, Selected Summaries of Road Watch Data
Compiled from CIA Messages

25X1

No Date Table: Northwestern Laos (truck and troop movements)

25X1 19 Sep 68 (Ch/DDP Systems Group) Memo for Record re
Laos Road Watch Computer Program

19 September 1968
SG-68/360

MEMORANDUM FOR THE RECORD

SUBJECT : Laos Road Watch Computer Program

25X1 1. Pursuant to the discussion with SAVA and OER on 17 September, this is to outline for further review the circumstances regarding Road Watch reporting/processing, and the possible equities in engaging in a computer project related thereto. It is understood that [redacted] of SAVA will prepare the case for Mr. George Carver's decision to commit SAVA resources. It is hoped that the following will enable those concerned to size the problem sufficiently to reach a decision within two weeks.

2. RW reporting is received by cables daily from Vientiane in the form of FOV's of varying precedence transformed into TDCS reports, and disseminated normally to: DIA, the military services, DOD, JCS, NMCC, NIC, NSA, SDO, CRS, NPIC/IAS, OER, SAVA, [redacted] and various FE division components.

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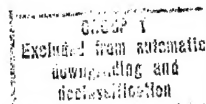
3. On a suggestion from FE that this reporting be summarized by the field in twice weekly summaries, the field has insisted that its lateral customers (CINCPAC, MACV, etc.) insist on "real time" reporting. At the Headquarters level we have determined, however, that all recipients, with the exception of OER are content, in fact welcome, weekly summaries instead of the flood of daily cables reporting minutiae. OER has to prepare weekly intelligence reports to the Watch Committee, White House, and Paris which must, for policy reasons, be based on the Director's assurance that the reports contain the intelligence available to Headquarters on Monday morning.

4. The field's need for lateral cable dissemination of this data to military customers will continue to be honored. The CS would like to find a more economical way of meeting users needs in Washington.

5. A spot review by the undersigned in exploring the flow of RW information and related activities revealed a high degree of redundant exercise in many community offices, along with frustration by all concerned with the inability to fully cope manually with the volume of

23 SEP 1968

SECRET



-2-

detail reported. While I did not attempt to calculate man hours and costs community wide, a general assessment of the current RW reporting and data processing picture reveals, against the backdrop of a general need for weekly summary information only: daily reading, distribution and rereading by all the components cited in para. 2 above, plus varying degrees of analysis, posting, charting, calculation, summarizing and re-reporting - all manual - by [redacted], OER, SAVA, OCI, [redacted] NPIC/IAS, DIA (including a machine program on MUSCLE SHOALS area), Defense Commo Planning Group (DCA), and STAG (Strategy and Tactics Analysis Group - Army). I would guess that another 2 dozen "war rooms" in Army, Navy, Air and DOD units around town are massaging the same data and, worse, re-reporting it upwards without understanding the nature of the operational collection problem.

6. Parenthetically, my visceral feel for this situation is that data of significance to the Paris talks and the President is coming through in such a form that is perforce being manhandled and mishandled by so many diverse groups that figures of possible strategic and diplomatic significance are reaching the top loaded with false confirmation, overlap, and inaccuracy. Part of this may be based on ~~my~~ handling of CIA reports, part by confusion between RW team information and data collected from PI, SI, sensor information and pilot observations.

7. Aside from the major question of accurate intelligence reporting, insofar as the RW teams can be judged reasonably accurate given their coverage, there is the question of aggregate agency and community effort in dealing with this reporting for whatever reason.

8. Just in terms of reading for distribution and redistribution, and sheer paper flow we are talking about some degree of work in Cable Secretariat, the IW, FE Division Reports, [redacted] and all the customers. The degree of redistribution in DOD is unknown. As a wild guess, probably 50 copies are ultimately made of every RW cable received. For every copy made, someone's time is occupied to some extent.

9. In terms of analysis and one or another level of posting and calculation, we know that [redacted] and OER put in fairly intensive effort for different but largely overlapping purposes. SAVA does some posting and, still within the Agency, OCI, NPIC and [redacted] are believed to do some data extraction. In the community, DIA and STAG are processing the details, and DCPG/DCA is reading if not processing.

10. The survey of this scene led us to postulate:

- a. let's Non Dissem routine cabled RW reports
- b. have one processing unit prepare weekly CS report to community, with analytical notes

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-3-

c. have this weekly report ultimately prepared by computer

d. take advantage of many other potential but still unproven capabilities of the computer in manipulating same data base for a variety of field and Headquarters purposes.

e. related to all of above, take advantage of STAG's work in developing a viable computer data base while, (1) simplifying input analysis, (2) adding a couple items of use to the DDP and DDI (team identification and team reliability).

11. The advantages of handling RW reporting in a computer system are:

a. Provides an economical means for eliminating one to several daily and difficult to digest RW TDCS reports to a number of customers, with related savings ~~and~~ message handling and reading throughout the community.

b. Centralizes in the hands of one or two experts the analysis and summary of data for the entire community.

c. Capitalizes on STAG's work, allows research in the machine-able data base back to 1966 to examine long termed trends in enemy activity (insofar as the data is reliable) over any time period (night-day, by route segment, by area, wet-dry season, etc.) using plotter display techniques.

d. Allows for greater possibility of systematic detection of anomalies in reporting (fabrication by or enemy control of team, new routes, truck parks) for investigation by station.

e. Greater possibility detecting unusual activity/buildup taking place in low increments of movement over relatively long time periods which are not noticed normally by analysts concentrating on historically significant infiltration routes.

25X11

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-4-

12. Component Responsibilities and Relationships:

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- a. DDP [] through CS activities [] responsible for collection and reporting of RW info for (1) tactical interdiction and OB reporting/analysis functions in the field, (2) guidance to Cable Sec. and IW for dissem of intelligence to CIA and community users, (3) analyzing utility of RW teams in terms of overall Headquarters project management.
- b. C/DDP Systems Group: on behalf FE Division, and the Clandestine Services at large, responsible for developing the best practical system to meet majority of needs (with or without computers) with possible (but not highly probable) extension of data processing activity to Udorn.
- c. DDP/Records Integration Division (RID). Willing absorb key-punching activity, at least on 3-4 months trial basis, without formality.
- d. DDS&T/Office of Computer Services (OCS). Willing undertake computer programing and processing to convert STAG mag tapes to CIA equipment, add CIA desired features, prepare updated tape for STAG if latter stays in business and has requirements, without formality.
- 25X1
- e. OER. Responsible for preparing up-to-date weekly reports on traffic flow North to South Vietnam for Watch Committee, White House and [] Paris.
- f. SAVA. Selected posting most significant trend information, overall cognizance relationship RW reporting to Vietnam war.
- 25X1
- g. OCI. Requirements and manpower involved in RW analysis not understood.
- h. NPIC, [] Degree of interest and manpower expended not known.
- i. TSD. Tangential but significant interest re: efficacy R&D efforts sensors.
- j. DIA. Much interest and manpower, little if any understanding on our part of DIA's use of data beyond boilerplate presentations for higher echelons.

25X1

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-5-

k. STAG. Much interest and work we can transfer directly; no understanding STAG's role or impact in DOD or with JCS re. RW program except informal comments to effect they think its best thing since central heating in support air war in S. E. Asia.

13. The input analysis/coding is the key to operation of a viable system serving in multiplicity of interests. 1/2 man year analyst, 1/2 year typist, each with backup, essential. If this commitment undertaken, the other parties (DDP/SG, RID, FE, [redacted] IW, STAG, OCS) can continue to handle and develop the system without recourse to further protocol/red tape.

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14. Some practicalities, which are the counter points to the advantages listed in para. 10 above. The manpower figures are given immediately above. From the time some unit agrees to test the computer approach, probably one month will be required for analyst and typist training, input forms design, output format design, computer programing and processing debugging, and related procedural checkup before the system works at a satisfactory level. Another three months will be required to see how the system is paying off in the aggregate. At the end of this time it could be determined that the old, sloppy, redundant method of ad hoc dissemination is preferable to the organization, control and patience required in developing and operating a computer system. One thing for sure: if there is a reasonable belief that an integrated computer system will pay off, it has to be paid for in development time and manpower, with one manager clearly in charge.

15. Attached is a list of the officers concerned in each Headquarters component.

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[redacted]
Chief, DDP Systems Group

Attachment - a/s

Distribution:

C/SAVA

OCS - [redacted]

C/RID

C/FE/Reports

TSD - [redacted]

DD/OER

EA/DDP

FE - [redacted]

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ANNEX L

Selected Summaries of Road Watch ☐ Data
Compiled from CIA Messages (U)

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1. (S) GENERAL. The road watch computer routines developed by STAG for the last updating period, 1 March-30 September 1967, have been extensively modified for this report. In addition, an extensive screening of all road watch messages received by the Department of the Army disclosed that numerous messages had not been received by STAG and therefore, the data base was significantly incomplete. Subsequently, the missing messages were obtained, the data from the messages coded, and the data base tapes updated.

a. Two tapes are now on hand at STAG. The first tape covers data for the period 1 September 1966 through 30 September 1967 and has 15,718 records. The second tape covers data for the period 1 October 1967 through 14 April 1968 and has 17,634 records. Data will continue to be added to the second tape as it is coded and key punched. The basic tapes are easily updated and added to, through an update program.

b. In addition to the basic tapes, two tapes have been created from the basic tapes. These tapes have the same record information as the basic tapes with a word added to each record that reflects the numerical coordinate conversion of the UTM coordinate. These converted tapes are the input for the six reports described in paragraph 2 below.

c. Since previously published information was incomplete, updated reports for the previous report period, 1 March-30 September 1967, have been published. These reports as well as reports for the period 1 September 1966-28 February 1967, are included in a Special Edition, Assessment of the Air Effort in Vietnam and Laos (U), (September 1966-September 1967).

2. (S) COMPUTER ROUTINES. The following computer routines or reports have been prepared by STAG to assist in analyzing data derived from road watch messages.

L-1

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a. Report 1 is a chronological listing of all data by route, river, or area.

b. Report 2 is divided into two parts. Part 1 lists all data by route with the sequence by UTM coordinate from north to south. Part 2 lists all data by route with the sequence by UTM coordinate from east to west.

c. Report 3 is a monthly summation of movement activity by hour and shows the direction of movement.

d. Report 4 is a monthly summation of movement activity by route segment and the total movement activity for all segments of each route or river. It shows direction and time of movement. Copies of this report for selected routes and the Se Kong River are at appendix II.

e. Report 5 is a monthly summation of hours of observation and hours on station for the road watch teams. It is summed by route segment and by route for each day of the month. Copies of this report for selected routes and the Se Kong River are at appendix III.

f. Report 6 is a periodic summary of movement activity and observation effort for each route or river. Direction and time of movement for each general category of movement activity as well as the amount and percent that moved during the day or night are shown. Additionally, the observation effort spent on each route is shown in number of hours and percent of the total hours the teams were on station, as well as the total hours available in the period. Copies of this report for all routes and rivers are at appendix IV.

3. (S) ROUTE SEGMENTS. To derive data adaptable to traffic analysis, each reported route and river has been segmented in conformance with the reconnaissance segments shown on the USARPAC base map, Edition 1, May 1967, Standard Alignments, Designators, and Linear Segments. Each segment follows the general configuration of the route or river and extends approximately 5-10 kilometers to either side. Some segments shown on the USARPAC base map have been resegmented to provide more specific

L-2

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details of traffic activity. Computer programming limitations have required that the segments be lettered consecutively beginning with the letter A. To aid in specific identification of the route segment being examined, the coordinates delineating the segment have been printed as an extension of the segment identifier. The UTM 100,000 meter grid square designator has been converted to a numerical equivalent in accordance with the matrix at table L-1. The coordinates transmitted in road watch messages have also been converted to numeric coordinates through a conversion routine. The area programs then identify the message information by segment, and compile the data. Routes are readily identified by the actual route number, except Route 19 (Cambodia) which is shown as Route 190 to avoid confusion with Laotian Route 19. Rivers are identified by letter designators as shown in table B-15, annex B, volume I.

4. (U) CODING. The codes used for designating types of movement activity or lack of activity and for describing the loads carried by prime movers and the movement activity, are those used in COACT III (see appendix I). Additional codes that were used are shown below.

Fixed Targets

AASC	AA searchlights
ARHP	hospital
GE	generator
CSEX	construction site explosion
XP	outpost
MVRS	truck repair shop
EN	engine
LA	landslide
NONE	no activity
UNTO	unable to observe because of weather

L-3

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details of traffic activity. Computer programming limitations have required that the segments be lettered consecutively beginning with the letter A. To aid in specific identification of the route segment being examined, the coordinates delineating the segment have been printed as an extension of the segment identifier. The UTM 100,000 meter grid square designator has been converted to a numerical equivalent in accordance with the matrix at table L-1. The coordinates transmitted in road watch messages have also been converted to numeric coordinates through a conversion routine. The area programs then identify the message information by segment, and compile the data. Routes are readily identified by the actual route number, except Route 19 (Cambodia) which is shown as Route 190 to avoid confusion with Laotian Route 19. Rivers are identified by letter designators as shown in table B-15, annex B, volume I.

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L-3

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Table L-1--(U) UTM 100,000 Meter Grid Squire Numerical
Conversion Matrix (U)

Numerical Equivalent	47 ^a										48 ^a						Numerical Equivalent
	b	16	17	18	19	20	21	22	23	24	25	26	b				
E		P	Q	R	S	T	U	V	W	X	Y	Z	K	24			
D													J	23			
C													H	22			
B													G	21			
A													F	20			
V													E	19			
U													D	18			
T													C	17			
S													B	16			
R													A	15			
Q													V	14			
P													U	13			
O													T	12			
N													S	11			

^aGrid Zone Designator^bPrefix Letters identifying the 100,000 meter grid square.

Sample: 48QVG 600 550 equates to 48Q 22600 21550. As in map reading, the matrix should be read right and up.

Movable Targets

MVAR	armored car
MVPC	personnel carrier
<u>TCHB</u>	coolies
TCAN	pack animals
TCCT	push or pull cart
TCBY	bicycles
TCEM	motor bikes
TSNV	NVN troops
TSPL	PL troops
TSCH	Chinese troops
TOFF	officials
ARTY	towed artillery

Cargo or Activity Descriptor

AA	antiaircraft artillery
AC	armed Chinese
AL	armed Pathet Lao
AM	ammunition
AN	armed NVN
AP	armed personnel
FO	food
GE	generator
HT	hand tools
HW	crew served weapons
PD	POL drums
SA	individual weapons
SU	other supplies
UE	empty
UP	unarmed personnel
UU	unidentified cargo
WP	wounded personnel

	<u>Country</u>
CA	Cambodia
CH	China
LA	Laos
VN	North Vietnam
VS	South Vietnam

L-6

APPENDIX I

COACT Codes (U)

1. (U) TARGET TYPE, FIXED TARGETS CODESCODE

AA	AA/AAA Site (Unidentified)
AAAW	Automatic Weapons
AAFL	Flak Trap
AAFC	Coastal Gun Emplacements
AASA	Surface to Air Missile (Unidentified)
AAS1	SA1
AAS2	SA2
AAS3	SA3
AASP	SAM Support Facility
AASM	Small Arms
AA37	37mm
AA57	57mm
AA85	85mm
AA00	100mm
AF	Air Field
AN	Anchorage
AR	Area/Depot
ARAM	Ammo
ARBA	Barracks
ARCM	Communications
ARFO	Fortified
ARHQ	Headquarters
ARMI	Military
AROR	Ordnance
ARPO	POL/Tank Farm
ARSG	Staging

L-I-1

CODE

ARSP	Supply
ARST	Storage Supply
ARVL	Vulnerable
ARWA	Warehouse Area
AT	Antenna
BF	Bunkering Facility (POL)
BS	Base
BSAY	Army
BSNA	Navy/Naval
BSAB	Air Force
BL	Building
BLAM	Ammo
BLBA	Barracks
BLBU	Bunker
BLCM	Communications
BLCO	Control (incl Control Number)
BLGE	Generator
BLHA	Hangar
BLHQ	Headquarters
BLHT	Hut
BLPW	Power House
BLPU	Pump House
BLRA	Radar
BLST	Storage, Warehouse, Supply
BLWA	Warehouse
BR	Bridge
BRAP	Bridge Approach
BRHI	Highway
BRBP	Bridge Bypass

L-I-2

CODE

BRRR	Railroad
BRFT	Foot Bridge
BRRH	Railroad and Highway
BRSH	Bridge Section/Span (Hwy)
BRUW	Underwater
BRSR	Bridge Section/Span (RR)
BRPN	Pontoon
BRCW	Causeway
BV	Bivouac
CG	Cooling Towers
CP	Command Post
CS	Construction Site
CV	Cave
CX	Choke Point
DA	Dam
DD	Dry Dock
DR	Drum (POL)
DK	Dike
EC	Camp
EL	Launcher (Missile)
FY	Ferry
FYAP	Ferry Approach
FYLA	Ferry Landing
FYSL	Ferry Slip
FD	Ford
IS	Island
LK	Lock
LV	Levee
MP	Mountain Pass

L-I-3

CODE

MR	Marine Railway
ML	Minefield Land
MW	Minefield Water
MN	Mineable Area
NF	Naval Support Facility
PL	Plant
PLCE	Chemical
PLEX	Explosives
PLCE	Coal
PF	Port Facility
PP	Pipeline
PR	Pier
PW	Power (Electric)
PWHY	Hydro Power Plant
PWTH	Thermal Power Plant
PWTM	Transformer
PWLN	Lines
PWES	Station
RD	Road
RDIN	Road Intersection
RF	Refinery (POL)
RW	Runway
RA	Radar
RAFF	Flat Face
RAEW	Early Warning
RAKR	Knife Rest
RAFC	Fire Control
RASH	Skin Head
RAGC	GCI

L-1-4

CODE

RAHF	Height Finding
RAED	Surface Search
RAEE	Fan Song
RAEF	Spoon Rest
RM	Revertment
RR	Railroad
RRYD	Yard
RRTK	Track
RRRS	Repair Shop
RRES	Station
RRCY	Classification Yard
RRSD	Siding
RRSR	Spur Line
RRMA	Main Line
RO	Radio
SC	Searchlight
SI	Silo
SP	Supplies (Misc)
SY	Shipyards
TW	Tower
TP	Truck Park/Stop
TN	Tank (POL)
TU	Tunnel
TH	Trenches
TR	Transfer/Transshipment Point
UN	Unknown/Unidentified
WF	Wharf
RAMC	Mooncone
RABL	Barlock

L-I-5

CODE

RASR	SRO-2
RARS	Rock/Stonecake
RAOE	One Eye
RACU	Crossup
RAIF	660 Iff
RASN	Sidenet
SF	Sensor Field

L-I-6

2. (U) TARGET TYPE, MOVABLE TARGET CODESCODE

AC	Aircraft (Unidentified)
ACDU	Dummy
ACFF	Fighter
ACBM	Bomber
ACTB	Trainer
ACTC	Transport
ACHE	Helicopter
MV	Motor Vehicle (Unidentified)
MBZ	Bus
MVCJ	Car
MVMI	Military (Unidentified)
MVDU	Dummy
MVEQ	Equipment, Construction, Bulldozers, Graders, etc.
MVTY	Tank
MVTN	Tank Truck (POL)
MVET	Transporter
MVTX	Truck
MVVA	Van (Comm, Radar, Trailer w/l Cab, etc.)
MVCK	Vehicle Convoy
RV	Railroad Vehicles (Unidentified)
RVBO	Boxcar/Freight Car
RVCF	Crane Car
RVFC	Flat Car
RVLN	Locomotive
RVIN	Tank Car (POL)
RVTI	Train (Unidentified or Mixed)
RVTI	Train Passenger
RVTI	Train Freight

L-I-7

CODE

RVWC	Work Cars
WV	Water Vehicles (Unidentified)
WVBL	Cargo Barge
WVBG	Barge
WVBP	POL Barge
WVBT	Boat (Unidentified)
WVDG	Dredge
WVFR	Freighter
WV FY	Ferry
WVJK	Junk
WVJC	Cargo Junk
WVLC	Landing Craft/Landing Ship
WVCL	Logistics Craft
WVLR	Lighter
WVPC	Patrol Craft
WVGB	Gunboat
WVPN	Pontoons
WVRT	Raft
WVYP	Patrol Boat
WVPT	Torpedo Boat (PT)
WVSK	Sampan
WVSS	Ship
WVUB	Submarine
WVSZ	Swatow
WVTN	Tanker
WVUO	Tug
TS	Troops (Unknown Number)
TSDV	Division (6000)
TSRG	Regiment (1500)
TSBT	Battalion (400)

L-I-8

TSCO Company (100)

TSPT Platoon (33)

L-I-9

Approved For Release 2006/10/05 : CIA-RDP78T02095R000600470001-1

CARD NUMBER		COUNTRY		YEAR		MONTH		DAY		FROM		TO		ROUTE NUMBER		11 SPACE UTM OR 13 SPACE LAT/LONG (RIGHT ORIENTED)		MOVEMENT TYPE		NUMBER SIGHTED		DIRECTION		TIME OF MOVEMENT		CARGO								AIR STRIKE		AAA FIRE		TIME OF AAA FIRE																																									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

SECRET WORKING PAPERS WHEN FORM IS COMPLETE
ROAD WATCH SUBMISSION INFORMATION

Automated Road Watch Data
Operations Plan: 30-Day Trial

I. Background.

As a result of a preliminary analysis of the Laos road watch data processing system currently in use within the Agency, it was decided that the automated processing begun by the Strategic and Tactical Analysis Group (STAG) should be adopted here, if certain feasibility and desirability conditions were met.

A. Feasibility Conditions

1. That manpower inputs be sufficient to maintain a currency for the report consistent with the currency now achieved through the manual system. Manpower inputs include both analytical (coding and validation) and machine formatting (keypunch and processing).
2. That data processing (computer) priorities be assigned so as to be compatible with Feasibility Condition 1.

B. Desirability Conditions

1. Exchange Optimality; that is, that no current consumer-- DDI, DDP, DOD, etc. -- be worse off as a result of the shift to automated processing. This condition is not trivial due to the fact that manpower inputs are to be obtained from consumer components.
2. That the automated system provide information that is more current, cheaper, more accurate, or provide

analytical support for an intelligence problem in a manner not previously available.

II. Manpower & Data Flows for the 30-Day Trial

1. The 30-day trial should begin on 1 November 1968. The information flow now supporting the production of OER's weekly traffic report will not be altered; thus providing a dual capability -- manual and semi-automated -- during the trial period.

2. Since the final deadline for the OER summary report is 1200 each Monday, computerized reports will be scheduled for production on 8, 15, 22, & 29 November, the Fridays preceding the Monday due dates.

25X11 3. DDP will be assigned the task of coding the raw reports received Monday through Friday, assembling the coding sheets and arranging for key punch and processing operations.

4. OER will be assigned the task of coding the raw reports received on Saturday and Sunday and of reviewing the Friday report for general (not detailed) accuracy.

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INTERNAL
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ROUTING AND RECORD SHEET

SUBJECT: (Optional)

FROM:

DDP/ ☐
1-H-5113
☐

EXTENSION

NO.

DATE

TO: (Officer designation, room number, and building)

DATE

RECEIVED

FORWARDED

OFFICER'S
INITIALS

COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)

1.

OER/I/L

2.

3 G 24

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

13.

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15.

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here example
of coding sheet



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